

Climate Forward Trees are

A palette of tree species that are likely to thrive in the future.

The City of Santa Rosa is a long established leader in environmental sustainability and an advocate for stable, healthy and functional landscapes.

Forecasted changes in the region's climate required heightened focus and forward-thinking programs to enable the community and its residents to thrive.

The City engaged the University of California Master Gardener Program of Sonoma County to develop a recommended palette of tree species that would be likely to thrive with forecasted changes in climate in 30-50 years.

Selection Criteria



Drought Tolerant

The likelihood to tolerate long periods without water (e.g., WUCOLS low/very low).

6 = high tolerance



Temperature Tolerant

The likelihood to tolerate forecasted average temperature and temperature extremes in 2050 and beyond.

4 = good; 6 = best tolerance



Pest Resilient

The extent of known insect pests and pathogens affecting this species and general resistance.

2 = least; 6 = most resilient



Damage Resilient

How successful the species is in rebounding from physical damage.

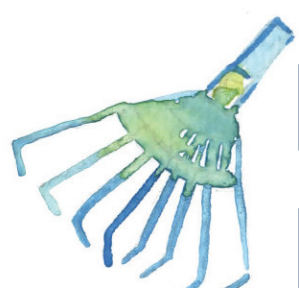
2 = least; 6 = most resilient



Low Maintenance

The amount of maintenance (including pruning) that is required during an average growing season.

1 = most; 3 = least



Low Nuisance

How much debris falls from or needs to be removed during an average growing season.

1 = most; 3 = least

Native Species

Whether the species is indigenous to the region through local and natural evolution.

0 = not native to California;
4 = native to California;
6 = locally native

Habitat Friendly

How beneficial the species is to supporting wildlife and encouraging the broader ecosystem.

1 = least friendly to wildlife;
3 = most friendly to native wildlife



Replicate our approach in your area

01 Develop Climate Projection

Utilize climate projection tools in your State. Recommendation: Average Maximum Temperature and Extreme Heat Days are the key comparators.

02 Engage expert advisor

We modeled our project after UC Davis' Climate Ready Trees project (climateredytrees.ucdavis.edu) and consulted with regional Cooperative Extension Urban Forestry & Environmental Horticulture Advisors.

03 Select a Target City

Our identified Target City is Paso Robles, CA, with current Average Maximum Temps and Extreme Heat Days comparable to the 2050 projection for Santa Rosa.

04 Develop Target Tree List

Target City current tree list supplemented with Cal Poly 'Select Tree' website, California Native Plant Society, and other sources.

05 Develop Tree Selection Criteria

Identify and assign weights to selection criteria: Damage resilience (2), Temperature tolerance (2), Drought tolerance (2), Native (2), Nuisance factor (1), Maintenance required (1), and Habitat friendly (1).

06 Review and score identified trees

Each selection criteria is scored "1" (Low), "2" (Moderate/Better), or "3" (High or Best). Each criteria is multiplied by the weighting factor to calculate a total score. Goal: Choose 30 highest scoring trees.

07 Finalize your list

Provide suggested planting locations (Street, Patio/Backyard, Specimen, Large property), Sun or Shade, and either Evergreen or Deciduous recommendations.

Results

29

Recommended Species

included in the published Climate Forward Trees Santa Rosa List

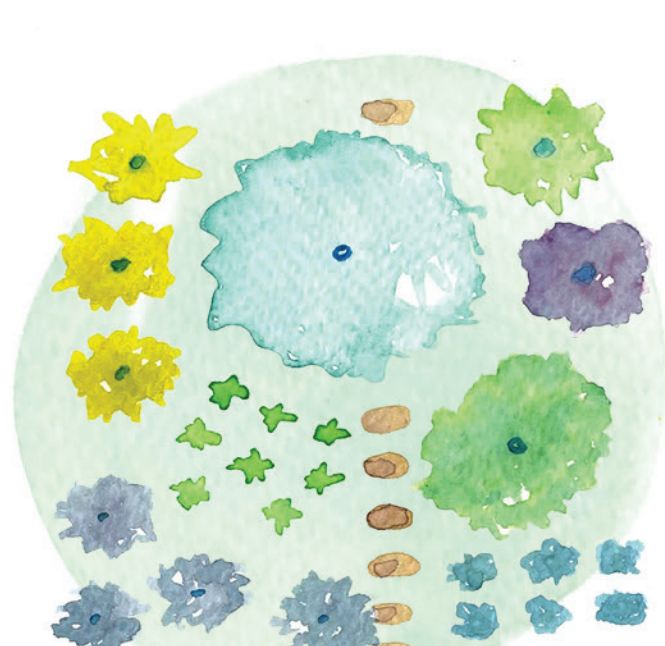
Scan to see them all



Other Considerations



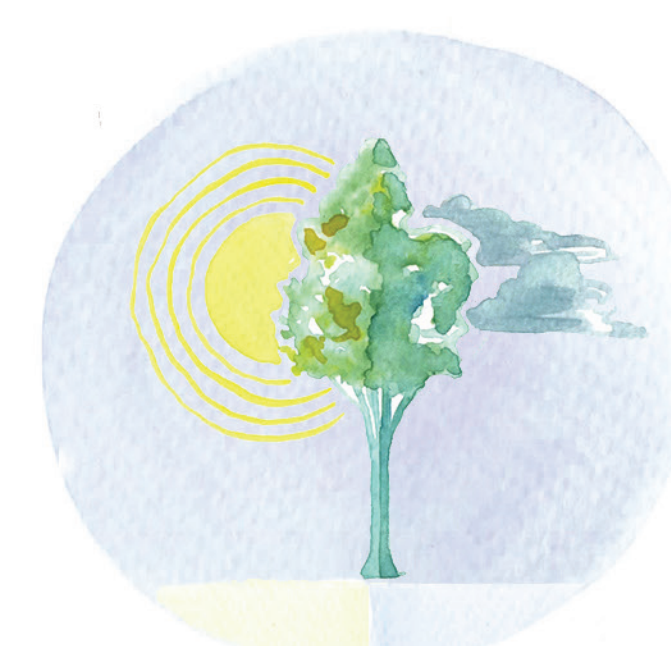
Size: Small, Medium, Large



Setting: Street, Backyard, Park, Specimen



Seasonality: Evergreen or Deciduous



Light: Sun or shade

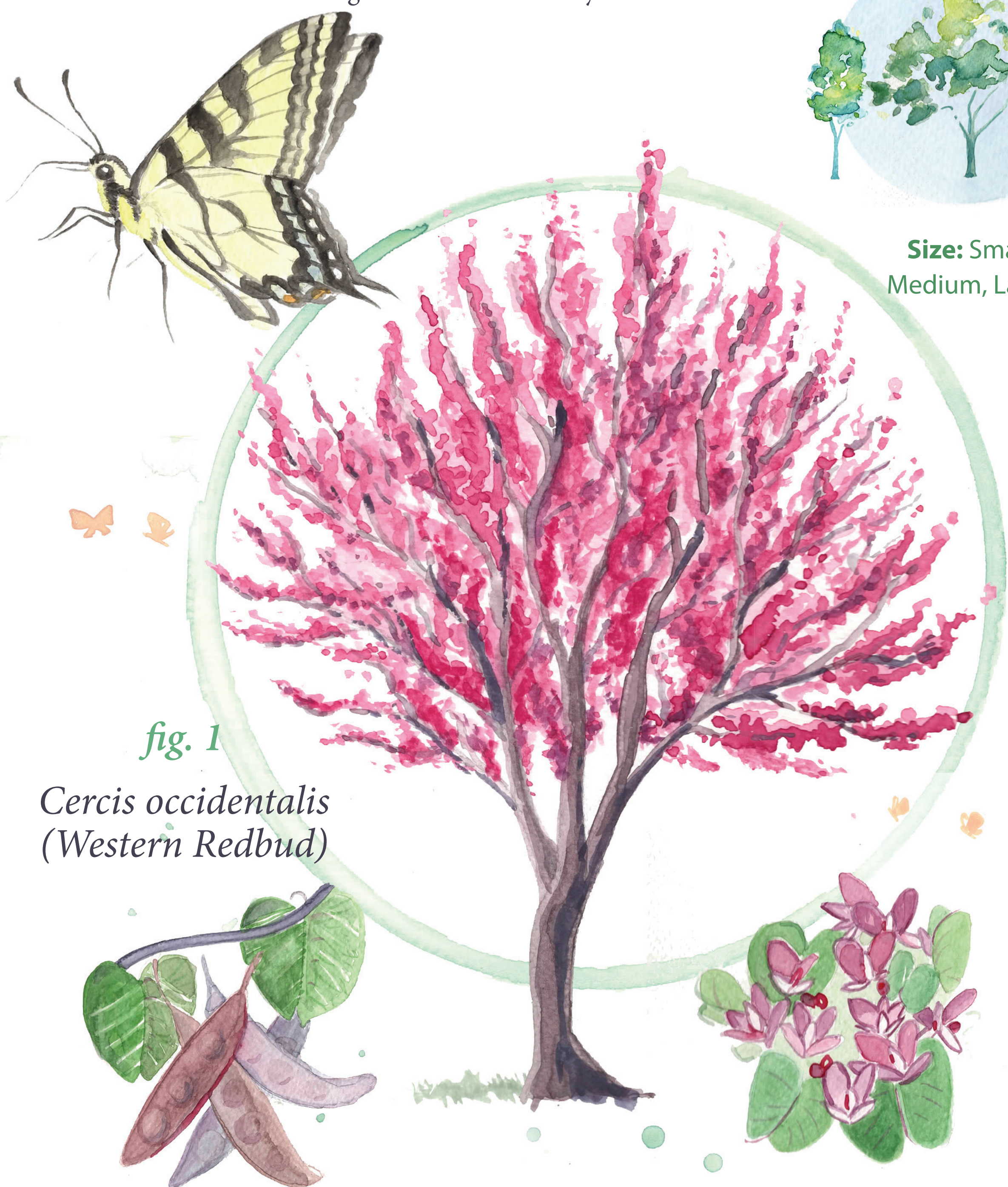


fig. 1

Cercis occidentalis
(Western Redbud)

Native noted for deep pink spring bloom. Slow growing. Seed pods held in winter.

Total Score **35**

Criteria	Score	Criteria	Score
Drought Tolerance	6	Low Maintenance	3
Temp. Tolerance	6	Low Nuisance	3
Pest Resistance	4	Native Species	6
Damage Resilience	4	Habitat Friendly	3

Considerations

Mature Size: Small (H x W): 10'-20' x 10'-20'
Site: Street, Backyard, Large Property, Specimen
Sun/Shade: S/A/P
Deciduous/Evgrn: D



fig. 2

Parkinsonia microphylla
(Little Leaf Palo Verde)

Wide canopy with greenish bark and pale yellow flower.

Total Score **31**

Note: Total possible score is 39 (highest score any trees received in our evaluation was 37).

Criteria	Score	Criteria	Score
Drought Tolerance	6	Low Maintenance	3
Temp. Tolerance	4	Low Nuisance	2
Pest Resistance	6	Native Species	4
Damage Resilience	4	Habitat Friendly	2

Mature Size: Small (H x W): 20'-30' x 20'-30'
Site: Street, Backyard, Specimen
Sun/Shade: S
Deciduous/Evgrn: D

Planting trees is the most efficient, inexpensive and natural system to combat climate change.

Excerpt from US Department of Forestry

Sources: Sonoma County Climate Protection Authority; Cal-Adapt; Western Regional Climate Center; California Irrigation Management Information System; WUCOLS (Water Use Classification of Landscape Species)

Team: Tim Coyne (Project Leader), Roger Bucholtz, Mimi Enright, Linda King, Bill Klausung, Rosemary McCreary, Kim Pearson, Kim Roberts

Poster Art: By a family of artists, including 3 siblings: Jason & Jessica Toney (Illustration); Megan Enright (Design)



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